

REMARKS

Claims 1-15 are now in the application. By this Amendment, claims 5, 6, 9, 10, 14, and 15 have been amended to correct informalities but not to limit the claim scope. Support for the amendments is found at least at original claim 12 and at page 5, lines 21-24, of the specification. No new matter has been added.

Claims 5, 6, 9, 10, 14, and 15 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Specifically, claims 5, 6, 9, and 10 are considered indefinite for lack of antecedent basis for the claim feature “the catalytically active composition.” Claims 5, 6, 9, and 10 are amended to obviate this objection. Support for the amendments is found at least at original claim 12. Further, claim 14 is rejected because the claim feature Sb_2O_3 content is considered unclear. Claim 14 is amended to recite Sb_2O_3 content by weight, as supported by page 5, lines 21-24, of the specification. In addition, the dependency of claim 15 is changed to depend from claim 13 instead of claim 1, as suggested in the Office Action.

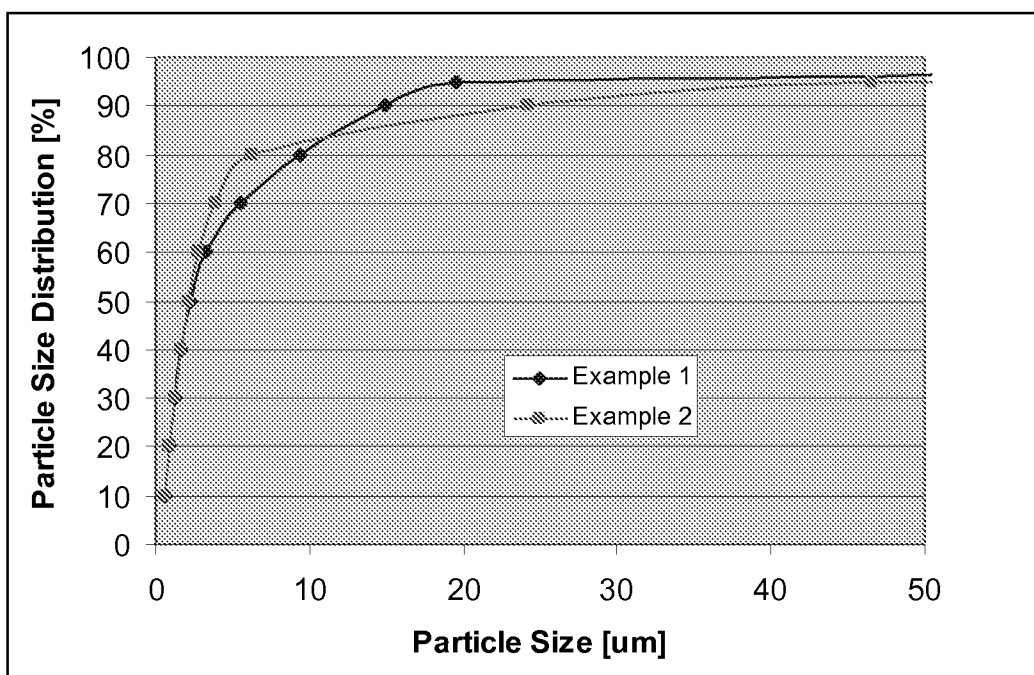
Claims 1-13 and 15 have been rejected under 35 U.S.C. §103(a) as being unpatentable over EP 539 878 to Ueda in view of US 4,621,072 to Arntz et al.

As appreciated by the Examiner, Ueda fails to suggest features corresponding to “at least 90% by volume of the V_2O_5 particles have a diameter of 20 μm or less and at least 95% by volume of the V_2O_5 particles have a diameter of 30 μm or less,” as recited in independent claim 1. However, the Office Action relies on Arntz for curing the deficiencies of Ueda.

Arntz relies on the precursor powder corresponding to example 1 of DE 2,009,172, which uses soluble ammonium monovanadate NH_4VO_3 to prepare $[(\text{NH}_4)_6\text{Mo}_7\text{O}_{24} \cdot 4 \text{H}_2\text{O}]$. Arntz suggests that the precursor powder used therein comprises antimony, molybdenum, vanadium, and tungsten in a molar ratio of 6:12:3:1.2 to form a rather complex oxidic powder. Specifically, Arntz suggests an oxidic powder with the composition $\text{Sb}_6\text{Mo}_{12}\text{V}_3\text{W}_{1.2}\text{O}_x$. Such a powder does not contain V_2O_5 particles, but vanadium atoms incorporated into an molybdate lattice. The particle size to which Arntz refers is thus the particle size of the complex oxidic powder, not a particle size of V_2O_5 .

Further, the particle size distribution of the complex oxidic powder set forth at col. 11, lines 39-42, of Arntz, i.e., > 90% of the particles are within 2-50 μm , is closer to the comparative example 2 ($95\% \leq 46.58 \mu\text{m}$) than to the inventive Example 1 ($95\% \leq 19.51 \mu\text{m}$). See page 6, lines 39-42 and page 7, lines 13-17, of Applicants' disclosure.

The chart below depicts the particle size distribution of Example 1 and Example 2 of Applicants' disclosure.



As can be seen from the above chart, less than 90 % of all particles of comparative example 2 (squares) have a diameter of 20 μm or less and less than 95% of all particles of comparative example 2 have a diameter of 30 μm or less. The particle size distribution in Arntz, albeit for the complex oxidic powder and not for V_2O_5 particles, is closer to the comparative example 2 than to a catalyst in accordance with claim 1. It is noted that the distribution in Arntz allows, for example, for less than 90 % of the particles to have a particle size of 40 μm or less, and, in particular, less than 90 % of particles having a particles size of 20 μm , as claimed. Thus, a catalyst as suggested in Ueda having a particle size distribution as suggested in Arntz, would

not have a particle size distribution as claimed, and, therefore, would not provide all of the benefits of the claimed subject matter discussed throughout Applicants' disclosure.

It is one aspect of the claimed subject matter that it allows using relatively inexpensive V_2O_5 powder. Arntz, however, relies on the use of the more expansive ammonium monovanadate in the preparation of the complex oxidic powder.

In addition, the applied citations fail to suggest a process of preparing a catalyst that requires substantially less excess of V_2O_5 , as demonstrated by example 1 and comparative example 2 on page 7 of the specification. In particular, the claimed catalyst can be prepared with an excess of only 0.543 kg of V_2O_5 , whereas the excess amount had to be increased to 3.134 kg for comparative example 2 to arrive at the prescribed V_2O_5 content.

Claim 14 is rejected under under 35 U.S.C. §103(a) as being unpatentable over Ueda in view Arntz et al. and in further view of US 6,586,361 to Heidemann et al.

The Office Action relies on Heidemann for suggesting two concentric layers of a catalytically active composition. Heidemann is not applied in a manner to cure the deficiencies of Ueda and Arntz discussed above.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Applicant concurrently herewith submit the requisite fee for a Petition for a one-month Extension of Time. Applicants believe no additional fee is due. However, if any such additional fee is due, please charge our Deposit Account No. 22-0185, under Order No. 13111-00036-US1 from which the undersigned is authorized to draw.

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Respectfully submitted,

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